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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/923,461	09/04/1997	VIET LE	RIC-96-153	2639

25537 7590 07/14/2003

WORLDCOM, INC.
TECHNOLOGY LAW DEPARTMENT
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EXAMINER

SEDIGHIAN, REZA

ART UNIT PAPER NUMBER

2633

DATE MAILED: 07/14/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/923,461

Applicant(s)

LE ET AL.

Examiner

M. R. Sedighian

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2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 81 and 82 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 81 and 82 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

1. This communication is responsive to applicant's 5/5/2003 amendment in the application of Viet Le et al. for "Method and System for Modulator Multiplexing and Amplification in a Multi-Channel Plan", filed 09/04/1997. The amendments have been entered. Claims 81-82 are now pending.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 81-82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US patent No: 5,909,295) in view of Roberts et al. (US patent No: 5,801,858).

Regarding claim 81, Li discloses a system for multiplexing/demultiplexing optical signals (col. 1, lines 4-8) in a set of multiple channels (col. 2, lines 10-14) within an operating window (Red Band + Blue Band, fig. 7) of a fiber communication network (col. 5, lines 45-61 and fig. 7), comprising: coarse wavelength multiplexing (70b, FBG10,11, FBG13,14, FBG16,17, fig. 7) /demultiplexing unit (70a, FBG2,3, FBG5,6, FBG8,9, fig. 7) configured to support bi-direction optical signal traffic (col. 1, lines 1-2, 32-33) within the operating window (λ_1 - λ_{18} , fig. 7), the operating window comprising a first set of subwindows traveling in a first direction (Red Band, fig. 7) and a second set of subwindows traveling in a second direction (Blue band, fig. 7), wherein each subwindow comprises a plurality of channels (λ_1 - λ_9 and λ_{10} - λ_{18} , fig. 7), a plurality of fine wavelength division multiplexers (Filters 12, 15, fig. 7) configured to support uni-directional traffic comprising the first set of subwindows of optical signals (λ_{12} , λ_{15} , λ_{18} ,

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fig. 7), a plurality of fine wavelength division demultiplexers (Filters 1, 4, 7, fig. 7) configured to support uni-directional traffic comprising the second set of subwindows of optical signals (λ_1 , λ_4 , λ_7 , fig. 7). Li differs from the claimed invention in that Li does not disclose a plurality of first and a second optical line amplifiers for amplifying the different respective subgroups of first and second set of optical signals. Roberts teaches an optical communication system (fig. 7C) for bi-direction transmission and reception (Tx, Rx, fig. 7C) of a plurality of optical signals of different wavelengths (Red and Blue, fig. 7C) that are amplified by different optical line amplifiers (col. 9, lines 63-67). Roberts further teaches optical amplifiers can be configured to substantially equalize gain across the set of channels (col. 7, lines 3-30). It is well known that optical amplifiers can be placed anywhere along different transmission paths to restore the signal to a desired level and to increase the transmission distance. As to equalizing gain across a set of channels, by controlling pump power and power control of respective optical amplifiers equalizing the gain across a set of channels can be achieved. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a plurality of optical line amplifiers such as the ones of Roberts along the respective optical fiber lines in the mutiplex/demultiplex transmission system of Li in order to boost the respective subgroup of optical signals that are attenuated during the transmission.

Regarding claim 82, Li discloses the first direction is opposite to the second direction (col. 1, lines 32-33).

4. Applicant's arguments filed 5/5/2003 have been fully considered but they are not persuasive.

Remarks states Roberts teaches use of a single bi-directional optical amplifier for amplifying optical signals traveling in two different direction across a single fiber, and not the use of first and second sets of multiple amplifiers, each amplifying different respective subwindow of an operating window. However, Roberts teaches (col. 9, lines 53-56 and figs. 7B, 7C) bi-directional optical amplifiers along respective fiber lines for amplifying different subwindows traveling in different direction (figs. 7B, 7C). For example optical amplifiers that amplify Red Band signals in West to East directions and optical amplifiers that amplify Blue Band signals in East to West directions. Roberts further teaches optical amplifiers can be configured to substantially equalize gain across the set of channels (col. 7, lines 3-30).

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

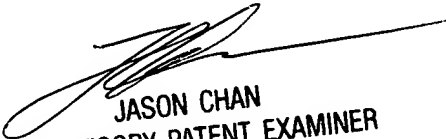
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. R. Sedighian whose telephone number is (703) 308-9063. The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



JASON CHAN
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